

Attachment 1 – Claims

1 1 (withdrawn). An integrated circuit comprising:
2 an amplifier formed on a semiconductor die, the amplifier having an
3 output port with an output impedance; and
4 a bondwire electrically connecting the output port to an external
5 conductor;
6 wherein the bondwire has a specified self-inductance and is operable to
7 match the output impedance to a desired load impedance.

1 2 (withdrawn). The integrated circuit of claim 1 wherein:
2 the amplifier is a radio frequency power amplifier.

1 3 (withdrawn). The integrated circuit of claim 1 wherein:
2 the semiconductor die is a metal-oxide semiconductor die.

1 4 (withdrawn). The integrated circuit of claim 1 wherein:
2 the semiconductor die is a gallium arsenide semiconductor die.

1 5 (withdrawn). The integrated circuit of claim 1 wherein:
2 the semiconductor die is a bipolar semiconductor die.

1 6. (canceled).

1 7. (canceled).

1 8 (original). An integrated circuit comprising:
2 an amplifier formed on a semiconductor die, the amplifier having an
3 output port with an output impedance;
4 a bondwire having a specified self-inductance and electrically connecting
5 the output port to an external conductor; and
6 a capacitor having a specified capacitance formed on the semiconductor
7 die and electrically connected between the output port and a ground, wherein:
8 the bondwire and the capacitor are operable to match the output
9 impedance to a desired load impedance.

1 9 (original). The integrated circuit of claim 8 wherein:
2 the amplifier is a radio frequency power amplifier.

1 10 (original). The integrated circuit of claim 8 wherein:
2 the bondwire, the capacitor and the desired load impedance are jointly
3 operable to resonate at a normal operating frequency of the integrated circuit.

1 11 (original). The integrated circuit of claim 8 wherein:
2 the semiconductor die is a metal-oxide semiconductor die.

1 12 (original). The integrated circuit of claim 8 wherein:
2 the semiconductor die is a gallium arsenide semiconductor die.

1 13 (original). The integrated circuit of claim 8 wherein:
2 the semiconductor die is a bipolar semiconductor die.

1 14. (canceled).

1 15 (original). An integrated circuit comprising:

2 an amplifier formed on a semiconductor die, the amplifier having an
3 output port with an output impedance;

4 a first bondwire having a first specified self-inductance, and electrically
5 connecting the output port to a first external conductor;

6 a second bondwire having a second specified self-inductance, and
7 electrically connecting the first external conductor to a node on the die;

8 a first capacitor having a first capacitance formed on the semiconductor
9 die and electrically connected between the node and a ground;

10 a second capacitor having a second capacitance embodied on the
11 semiconductor die and electrically connected between the node and a third
12 bondwire, the third bondwire having a third specified self-inductance and
13 electrically connecting the second capacitor to a second external conductor

14 wherein:

15 the first, second and third bondwires and the first and second
16 capacitors are operable to match the output impedance to a desired load
17 impedance.

1 16 (original). The integrated circuit of claim 15 wherein:

2 the amplifier is a radio frequency power amplifier.

1 17 (original). The integrated circuit of claim 15 wherein:

2 the first capacitor is connected to ground via a further bondwire.

1 18 (original). The integrated circuit of claim 15 wherein:
2 the further bondwire connects to a thermal pad formed within the
3 integrated circuit.

1 19 (withdrawn). An integrated circuit comprising:
2 a semiconductor die;
3 a first bondwire having a first self-inductance electrically connected to the
4 die and to an external conductor;
5 a second bondwire having a second self-inductance electrically connected
6 to the die and to the external conductor, wherein:
7 the first and second bondwires are operable to act as an inductor to form at
8 least a part of a circuit block comprised within the integrated circuit.

1 20 (withdrawn). The integrated circuit of claim 19 wherein:
2 the circuit block is an analog circuit.

1 21 (withdrawn). The integrated circuit of claim 19 wherein:
2 the circuit block is a radio frequency circuit.

1 22 (withdrawn). The integrated circuit of claim 19 wherein:
2 the circuit block is selected from a list consisting of:
3 an intra-stage match, an input stage match, a tuned circuit, an
4 oscillator, a filter, and a pre-selector for a radio receiver.

1 23 (withdrawn). The integrated circuit of claim 19 further comprising:
2 a further bondwire connected between the die and a ground.

1 24 (withdrawn). The integrated circuit of claim 19 further comprising:
2 a further bondwire connected between the die and a thermal pad.

1 25 (withdrawn). An integrated circuit comprising:
2 a semiconductor die;
3 a first bondwire electrically connected to the die and a periphery pad;
4 a second bondwire electrically connected to the die and the periphery pad,
5 wherein:
6 the first and second bondwires are operable to act as an
7 autotransformer to form at least a part of a circuit block comprised within
8 the integrated circuit.

1 26 (withdrawn). An integrated circuit comprising:
2 a semiconductor die;
3 a first bondwire electrically connected to the die and a first periphery pad;
4 a second bondwire electrically connected to the die and a second periphery
5 pad, wherein:
6 the first and second periphery pads are electrically connected, and
7 the first and second bondwires are operable to act as an
8 autotransformer to form at least a part of a circuit block comprised within
9 the integrated circuit.

1 27. (canceled).

1 28. (canceled).

1 29. (canceled).

1 30. (canceled).

1 31. (canceled).

1 32 (previously presented). An integrated circuit comprising:

2 an amplifier formed on a semiconductor die, the amplifier having an

3 output port with an output impedance; and

4 an impedance matching circuit connected between the output port and an

5 external conductor, the impedance matching circuit comprising:

6 an inductor consisting of a bondwire connecting the output port to

7 the external conductor; and

8 a capacitor formed on the semiconductor die and electrically

9 connected between the output port and a ground;

10 wherein the impedance matching circuit matches the output impedance to

11 a desired load impedance.

1 33 (previously presented). An integrated circuit comprising:

2 an amplifier formed on a semiconductor die, the amplifier having an

3 output port with an output impedance;

4 a first bondwire having a first self-inductance, and electrically connecting

5 the output port to a first external conductor;

6 a second bondwire having a second self-inductance, and electrically

7 connecting the first external conductor to a node on the die;

8 a first capacitor having a first capacitance formed on the semiconductor
9 die and electrically connected between the node and a ground; and
10 a second capacitor having a second capacitance embodied on the
11 semiconductor die and electrically connected between the node and a third
12 bondwire, the third bondwire having a third self-inductance and electrically
13 connecting the second capacitor to a second external conductor
14 wherein:
15 the first, second and third bondwires and the first and second
16 capacitors match the output impedance to a desired load impedance.

1 34 (previously presented). The integrated circuit of claim 33 wherein:
2 the amplifier is a radio frequency power amplifier.

1 35 (previously presented). The integrated circuit of claim 33 wherein:
2 the first capacitor is connected to ground via a further bondwire.

1 36 (previously presented). The integrated circuit of claim 33 wherein:
2 the further bondwire connects to a thermal pad formed within the
3 integrated circuit.

1 37 (withdrawn). An integrated circuit comprising:
2 a semiconductor die; and
3 an inductor forming at least a part of a circuit block comprised within the
4 integrated circuit, said inductor further comprising:
5 a first bondwire having a first self-inductance electrically connected to the
6 die at a first circuit node and to an external conductor; and

7 a second bondwire having a second self-inductance electrically connected
8 to the die at a second circuit node and to the external conductor.

1 38 (withdrawn). The integrated circuit of claim 37 wherein:
2 the circuit block is an analog circuit.

1 39 (withdrawn). The integrated circuit of claim 37 wherein:
2 the circuit block is a radio frequency circuit

1 40 (withdrawn). The integrated circuit of claim 37 wherein:
2 the circuit block is selected from a list consisting of:
3 an intra-stage match, an input stage match, a tuned circuit, an oscillator, a
4 filter, and a pre-selector for a radio receiver.

1 41 (withdrawn). The integrated circuit of claim 37 further comprising:
2 a further bondwire connected between the die and a ground.

1 42 (withdrawn). The integrated circuit of claim 37 further comprising:
2 a further bondwire connected between the die and a thermal pad.

1 43 (withdrawn). An integrated circuit comprising:
2 a semiconductor die; and
3 an autotransformer forming at least a part of a circuit block comprised
4 within the integrated circuit, said autotransformer further comprising:
5 a first bondwire electrically connected to the die and a periphery pad; and
6 a second bondwire electrically connected to the die and the periphery pad.

1 44 (withdrawn). An integrated circuit comprising:
2 a semiconductor die;
3 a first periphery pad;
4 a second periphery pad electrically connected to said first periphery pad;
5 and
6 an autotransformer forming at least a part of a circuit block comprised
7 within the integrated circuit, said autotransformer further comprising:
8 a first bondwire electrically connected to the die and said first
9 periphery pad; and
10 a second bondwire electrically connected to the die and said second
11 periphery pad.

1 45 (withdrawn). An integrated circuit comprising:
2 a semiconductor die;
3 a first periphery pad;
4 a second periphery pad; and
5 a transformer to form at least a part of a circuit block comprised within the
6 integrated circuit, said transformer further comprising:
7 a first bondwire electrically connected to the die and said first
8 periphery pad; and
9 a second bondwire electrically connected to the die and said second
10 periphery pad.